

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF PENNSYLVANIA**

PPG INDUSTRIES, INC.,	)	
	)	
	)	
	)	
v.	)	2:15-cv-00965
	)	
JIANGSU TIE MAO GLASS CO., LTD.,	)	
et al.,	)	
	)	
Defendants.	)	
	)	

**OPINION**

**Mark R. Hornak, Chief United States District Judge**

The dispute now before the Court arises from a civil action filed by PPG Industries, Inc. against Jiangsu Tie Mao Glass Company (“TMG”), a PPG competitor. After PPG learned that one of its former employees stole and sold multi-million dollar trade secrets to TMG (including as to PPG’s Opticor product), it initiated a civil action asserting several claims against TMG and two of its representatives, Benhua Wu and Mei Zhang (“Defendants”) under the federal RICO statute, Pennsylvania tort and contract law, and the Pennsylvania Uniform Trade Secrets Act (“PUTSA”). (ECF No. 1.)

After Defendants failed for years to answer the Complaint, PPG eventually requested an entry of default in October 2017, and the Clerk of this Court promptly obliged. (ECF Nos. 70, 80.) In May 2019, PPG moved for the entry of a default judgment and permanent injunction against Defendants on its PUTSA misappropriation claim. (ECF Nos. 106, 107.) Only at this point did Defendants enter an appearance by counsel, moving to set aside the entry of default and also opposing PPG’s motion for a default judgment. (ECF Nos. 129, 130.)

In March 2020, the Court granted PPG's Motion for default judgment and permanent injunction on its PUTSA misappropriation claim (ECF No. 106)<sup>1</sup> and denied Defendants' Motion to Set Aside Entry of Default. (ECF Nos. 129, 157.) That Opinion also deferred a final ruling on PPG's motion on the issue of damages without prejudice. (ECF No. 157, at 40.) On the damages question, the Court determined that although PPG's research and development costs provided an appropriate measure of Defendants' unjust enrichment, there was insufficient evidence in the record to calculate the amount of damages due to PPG. (ECF No. 157, at 32.) For that reason, the Court deferred PPG's motion on the issue of damages without prejudice and subject to PPG's provision of more detailed evidence about its research and development expenses related to the misappropriated trade secrets. (ECF No. 157, at 32.)

In doing so, the Court noted that the only evidence submitted related to damages was an affidavit by PPG's Global Director of Engineering and Technology, Mr. Khushroo Lakdawala, which included a one-page spreadsheet purporting to show PPG's research and development expenses for the misappropriated trade secrets in an alleged total amount of \$9,909,687. (ECF No. 107-5, at 6) (Lakdawala Decl. #1.) The Court's Opinion detailed reasons that the Declaration was insufficient to support a damages award. First, the Declaration provided insufficient evidence to establish that the expenditures listed related only to the trade secrets at issue. For instance, the Court noted that although PPG used the Lakdawala Declaration to establish the trade secrets' value and a separate declaration to establish that the information at issue constituted a trade secret under

---

<sup>1</sup> Defendants based their motion to set aside the default judgment based on the argument that the Court lacked personal jurisdiction over all three Defendants. The Court rejected this claim, finding that PPG had provided more than enough evidence to establish the Court's specific personal jurisdiction over TMG, Zhang, and Wu. PPG sought a default judgment only on its PUTSA misappropriation claim. The Court determined that the information that the PPG employee gave Defendants fell within the statutory definition of a trade secret and that Defendants misappropriated those trade secrets. (ECF No. 157, at 28, 30-31.)

the PUTSA, neither declaration referenced the other. (ECF No. 157, at 38.) Second, the Lakdawala Declaration relied on estimated costs without explaining how it reached them. *Id.* at 38-39. The Court noted as points of particular concern that PPG did not explain \$200,000 and \$300,000 estimated development costs for 2004 and 2005, and that the Lakdawala Declaration did not explain its multiplication of estimated employee hours by a flat \$80 per hour rate—which was especially unusual because it applied that rate to all labor over a twelve-year period, suggesting unusually stagnant and uniform labor costs. *Id.*

And finally, the Court determined that PPG had not produced sufficient evidence to support the award of damages for two capital expenditures that the affidavit included as recoverable costs: one \$737,853 expenditure on a “Max Machine, Optical ACT #RD-7015,” and one \$46,000 expenditure on a “Zwick Material Testing Machine BDQ-FB010TN-Proline ACT# 0322-0012.” *Id.* at 39. The Court noted that the Lakdawala Declaration’s broad statement that those capital expenditures played a role in Opticor’s development raised several questions. These included the question of whether those capital expenditures related more to ongoing manufacturing and production of Opticor technology rather than its initial development, in which case they would not properly be classified as research and development costs. The Court also noted that even if PPG did make both capital expenditures in order to develop the Opticor technology, “PPG would still need to explain how the costs of those pieces of capital investment provide a useful approximation of the benefit Defendants unjustly obtained through their misappropriation.” *Id.*

Though the evidence previously produced was insufficient for the Court to award damages, the Court did conclude that PPG’s research and development expenses provided an appropriate measure of Defendants’ unjust enrichment, and therefore PPG’s damages under PUTSA. (ECF No. 57, at 32.) Thus, as the Court noted, PPG’s remaining task should not have been arduous: The

Court simply required that PPG back up its damage calculations in a way that “allows the Court to scrutinize its calculations in more detail.” *Id.* at 40.

In an effort to speed the damage issue’s resolution, the Court directed the parties to enter mediation on the question of damages and deferred PPG’s motion for damages without prejudice until that mediation’s completion. (ECF No. 157, at 40.) Although the parties report engaging in some pre-mediation conversations, the mediation was unsuccessful when conducted. The mediator reports having adjourned the mediation after learning that the parties had “differing views concerning pre-mediation discussions about the exchange of information and positions” and that “in any event, no such exchanges took place.” (ECF No. 163, at 2.) The Court accordingly accepted the mediation report’s observation that the case was not resolved and ordered briefing on the damages issue. (ECF Nos. 163, 164.) PPG filed a new brief in support of their motion on the issue of damages, to which Defendants responded in opposition. (ECF Nos. 165, 166). PPG then filed a reply brief. (ECF No. 167.)

Neither PPG nor Defendants have sought a hearing or trial on the damages question. (ECF Nos. 165, 166, 167.) Under Federal Rule of Civil Procedure 55, the Court “may conduct hearings” when it needs to “determine the amount of damages” to enter or effectuate a default judgment. Fed. R. Civ. P. 55(b)(2)(B). “Rule 55(b)(2)'s language regarding hearings is permissive.” *Joe Hand Promotions, Inc. v. Yakubets*, 3 F. Supp. 3d 261, 271 (E.D. Pa. 2014). If the Court can determine the amount of damages to be awarded based on affidavits or other evidentiary materials, “[t]he Court is under no requirement to conduct an evidentiary hearing with testimony.” *E. Elec. Corp. of N.J. v. Shoemaker Constr. Co.*, 657 F. Supp. 2d 545, 552 (E.D. Pa. 2009); *see Rainey v. Diamond State Port Corp.*, 354 Fed. App’x. 722, 724 (3d Cir. 2009) (“If it is necessary to determine the amount of damages or to establish the truth of any averment by

evidence, the court *may* conduct a hearing.” (emphasis added and internal quotation marks omitted in *Rainey*) (quoting *Durant v. Husband*, 28 F.3d 12, 15 (3d Cir. 1994) (quoting Fed. R. Civ. P. 55(b)(2))).

Thus, as the parties acknowledge, although the Court “may” conduct an evidentiary hearing, it is not required to do so and may instead rely on affidavits and their corresponding exhibits to make a damages determination. (ECF No. 165, at 4, n.3); *see, e.g., Shoemaker Const. Co.*, 652 F. Supp. 2d at 605 (court may determine damages amount either by conducting a hearing or by receiving detailed affidavits from a claimant); *Freedom Med., Inc. v. Gillespie*, No. CV 06-3195, 2014 WL 12733553, at \*2 (E.D. Pa. Mar. 24, 2014) (“[u]nder Pennsylvania law, a reasonable calculation based on the evidence and affidavits is sufficient for establishing damages”). In sum, the Rule does not require that the Court hold a hearing to determine damages, neither party here requested a hearing on this question, PPG has already had two opportunities to justify its damages calculations to the Court, and the Defendants have responded on the merits of those claims. The Court therefore finds and concludes that no hearing is necessary or appropriate to decide the question of damages and will proceed to decide this matter based on the parties’ briefing and affidavits.

## **I. Legal Standard**

Unlike PPG’s factual allegations about liability, the Court may not treat allegations going to the calculation of damages as admitted by Defendants’ default. *See Chanel, Inc. v. Gordashevsky*, 558 F. Supp. 2d 532, 536 (D. N.J. 2008) (citing *Comdyne I, Inc. v. Corbin*, 908 F.2d 1142, 1149 (3d Cir. 1990)). A plaintiff that prevails by default is not automatically entitled to the damages they originally demanded. *Rainey v. Diamond State Port Corp.*, 354 F. App’x 722,

724 (3d Cir. 2009). Instead, a plaintiff may still be required to prove that they are entitled to the damages sought. *Id.* (citing *DIRECTV Inc. v. Pepe*, 431 F.3d 162, 165 (3d Cir. 2005)). The process used to resolve damages issues relative to a default judgment, including computation of damages and a decision on whether to conduct a hearing on damages, is within a district court's discretion. *Rainey*, 354 F. App'x at 724.

Under Pennsylvania law, damages can include both the actual loss caused by misappropriation and the unjust enrichment caused by misappropriation that actual loss computations do not take into account. 12 Pa. Cons. Stat. § 5304(a). The Restatement of Restitution and Unjust Enrichment provides that “[t]he value of the [defendant’s] use may be measured, as the court finds appropriate, . . . by the costs that [the defendant] would have incurred to acquire or create equivalent materials by legitimate means.” *See* Restatement (Third) of Restitution and Unjust Enrichment § 42 cmt. f, illus. 5 (Am. Law Inst. 2011). The Court has determined that PPG’s own research and development expenses for Opticor provide an acceptable proxy for measuring the magnitude of expense Defendants would have incurred to acquire or create an equivalent product by legitimate means, and that they were unjustly enriched by having avoided those costs by their misconduct. (ECF No. 157, at 34.)

Federal Rule of Civil Procedure 55(b) provides that, when the amount of damages is not for a sum certain, such as liquidated or statutory damages, a plaintiff must present sufficient evidence to establish a damages amount. Fed. R. Civ. P. 55(b). The Third Circuit has determined that “the general rule in Pennsylvania, as in most jurisdictions, is that if damages are difficult to establish, an injured party need only prove damages with reasonable certainty.” *Spector v. Fireman’s Fund Ins. Co.*, 451 Fed. App’x 130, 134 (3d Cir. 2011) (quoting *ATACS Corp. v. Trans World Commc’ns, Inc.*, 155 F.3d 659, 669–70 (3d Cir. 1998)). The “reasonable certainty”

threshold “embraces a rough calculation that is not ‘too speculative, vague or contingent’ upon some unknown factor”; the standard does not preclude a damages award because of “some uncertainty as to the precise amount of damages incurred.” *Id.* at 134.

The Court will therefore examine PPG’s claimed damages to determine whether (1) those claimed damages properly are expenditures that PPG made for Opticor’s research and development and are therefore an appropriate proxy for the cost that Defendant would have incurred to acquire or create an Opticor equivalent by legitimate means; and (2) whether PPG has established its claimed damages amount to meet the required “reasonable certainty” threshold.

## **II. Discussion**

PPG’s new briefing now asserts that it is entitled to a monetary damage award of \$9,866,637.30. (ECF No. 106; 165.) PPG provides additional backup for this calculation, explaining that the \$9,866,637.30 figure includes \$8,802,781.30 in non-estimated figures drawn from PPG accounting records; \$798,000 in “non-estimated rounded figures” that it derived from its “Historical Research & Development Spend Reports”; and \$265,856 in what it characterizes as “reasonable and conservative research and development cost estimates.” (ECF No. 165, at 4). As evidence supporting these calculations, PPG submits a new, revised affidavit from Global Director of Engineering and Technology, Mr. Lakdawala (“Lakdawala Decl. 2”) that provides more detailed categorizations of PPG’s research and development expenditures for each of several Opticor “cost centers” based on accounting records, and also explains the “methodologies, assumptions, and calculations” used to determine the remaining historical expenditures. (ECF No.

165-1.)<sup>2</sup> In response, Defendants argue that the Court should exclude from damage calculations all overhead and manufacturing costs. (ECF No. 166.) And Defendants also attack certain specific estimated damages costs as insufficiently supported. (ECF No. 166.)

For the reasons discussed below, the Court concludes that PPG has provided sufficient evidence supporting \$8,805,929 of its asserted damages. However, as discussed in detail below, the Court also concludes that PPG has failed to provide sufficient evidence supporting \$1,080,698 of its asserted damages. The Court will therefore grant PPG's Motion in part and deny it in part as to damages.

#### **A. Costs Associated with the Opticor Technology Cost Centers**

First, PPG's new briefing responds to the Court's observations that the first Lakdawala Declaration provided insufficient evidence to show that the expenditures in PPG's damages related solely to the misappropriated trade secrets. Unlike the first Lakdawala Declaration, the second Lakdawala Declaration does reference the declaration from Brent Wright, PPG's Global Platform Director for Aerospace Transparencies, that PPG used to establish that the stolen information constituted a trade secret under PUTSA. (ECF No. 107-4.) Mr. Lakdawala now affirms to the Court that he reviewed Mr. Wright's declaration in preparing his own, confirming that "the costs detailed in my May 20, 2019 declaration and herein are exclusively for the costs to create, develop, and commercialize PPG's proprietary transparency-related manufacturing processes identified in Mr. Wright's May 21, 2019 declaration." (ECF No. 165-1 ¶ 3.)

---

<sup>2</sup> PPG reiterates that its figures are also supported by previously submitted affidavits from PPG's senior executives (ECF Nos. 107-4, 107-5) and their corresponding exhibits, and argues that those materials may serve as the basis for its calculation of PPG's damages absent an evidentiary hearing.



PPG's briefing provides additional explanation for the assertion that damages figures summarized in Mr. Lakdawala's initial affidavit relate solely to the trade secrets Defendants misappropriated and explaining those costs. PPG assigned each of its products a cost center and tracks the costs associated with each product's creation, development, and commercialization. *Id.* ¶ 4.<sup>3</sup> PPG submits charts dividing each cost center's expenditures from 2006 through April 2015 into subcategories: (1) "employee costs," which include salaries, employee health and insurance benefits, wages for temporary services, and business travel; (2) "operational costs," which include equipment, lab materials, supplies, consultant fees, and inter-company services charges; and (3) "allocated department costs," which include overhead, depreciation of general property, and general administrative services. (ECF Nos. 165, at 8; 165-1 ¶ 5.) PPG clarifies that it derived these line-item expenditure descriptions, cost amounts, and narrative descriptions from PPG accounting reports for each year that the Opticor Technology was being developed. (ECF No. 165, at 8.)

PPG now attests that the Opticor cost centers for NPT Ballistics, NPT Base Polymer Development, and NPT Cabin Windows collectively spent \$7,758,792 to research and develop Opticor from 2006–April 2015, dividing each cost center into the detailed categories listed above for the relevant years. (ECF No. 165, at 6-8.) Similarly, PPG claims that from 2008–April 2015, the "Huntsville Development for Opticor" and "Opticor for OEM Coatings" cost centers spent \$182,834.30 and \$76,313, respectively, on Opticor research and development. (ECF No. 165-1 ¶ 6.) PPG does not break these expenditures down by the detailed expense categories that it lists for

---

<sup>3</sup> The seven Opticor cost centers PPG identifies as relevant to its damages calculation are: (1) NPT Base Polymer Development; (2) NPT Cabin Windows; (3) NPT Ballistics; (4) Opticor™ Sylmar; (5) Opticor™ for OEM Coatings; (6) Huntsville Development for Opticor™; and (7) Huntsville Engineering Hours for Opticor™. (ECF No. 165.)

the other cost centers. (ECF No. 165, at 8-9.) Instead, it explains that these two cost centers accounted for research and development expenditures “on a project-by-project basis” and that where Opticor development did not account for the total of a given project, that project would “allocate[] to the Huntsville cost center” the expenditures exclusively attributable to Opticor’s research and development. (ECF Nos. 165, at 8; 165-1 ¶ 6.) PPG also states that it derived these allocations and figures from PPG accounting reports for each year of Opticor’s development. *Id.*

1. Contested Opticor Technology Center Costs – \$4,299,866

In response, Defendants argue that PPG included line items for capital expenditures and overhead that are not recoverable under the applicable unjust enrichment theory. (ECF No. 166, at 8–10.) Recognizing that the Court has ruled that PPG may recover for time and effort saved in the form of employee salaries, contracting work, and other services charged in developing Opticor, Defendants nevertheless assert that PPG should not recover for expenditures on the listed capital expenditures, arguing that Defendants would still have to have made these expenditures if they had created a product legitimately. (ECF No. 166, at 3.) Defendants therefore argue that the Court should decline to award PPG any damages for capital expenditures, maintenance of capital expenditures, depreciating value of those capital expenditures, or overhead. (ECF No. 166, at 11.) Specifically, Defendants object to the following expenses, as specified by Cost Center (“Department”) and line item description: (1) NPT Polymer Base Department expenditures described as “Equipment and Supplies; Lab Materials & Supplies; Opticor Coating for OEM” totaling \$1,049,232.53; (2) NPT Cabin Windows Department Expenses described as “Maint Materials and Supplies; Maintenance Temp. Grubb & Ellis” totaling \$121,212.91; (3) NPT Cabin Windows Department expenses described as “Depreciation” totaling \$103,108; and (4) NPT Cabin

Windows Department expenses described as “Overhead Allocation,” in the amount of \$2,617,833.01 (ECF No. 166, at 7-10.)

Defendants argue that these line items represent capital expenditures, overhead, and depreciation that they argue are not recoverable under the unjust enrichment framework because PPG submitted them without explaining whether PPG used them exclusively for Opticor’s development or for its manufacture. And Defendants argue that PPG inappropriately relies on “conclusory assertions” from Mr. Lakdawala’s more recent affidavit as the sole basis for the reimbursement of the lab machinery and equipment included in the line items to which they object. (ECF No. 166, at 6.)

But PPG has sufficiently clarified that there is no ambiguity between the expenditure amounts listed, which were used for Opticor’s research and development, and the money that it spent to produce Opticor products. Mr. Lakdawala’s declaration attests that the expenditures listed were “*exclusively* for the cost to create, develop, and commercialize” Opticor for support. (ECF No. 165-1, ¶ 4.) And PPG further clarifies that Generally Accepted Accounting Principles require PPG to capture research and development costs separately from its commercial manufacturing costs, and reports that it accordingly tracks the costs associated with each product’s research and development separately from its production. (ECF No. 167, at 3-4.)

And finally, Defendants argue that PPG submitted a total of \$408,500 in various line items from the NPT Cabin Windows Department without providing explanation for those items in either the Lakdawala declaration or the prime account key at Exhibit B. (ECF No. 166, at 16-17.) But each of these line items is associated with a ‘Prime Account number’ included in Exhibit B to Mr. Lakdawala’s declaration, which provides appropriately detailed descriptions for each line item.

(ECF No. 165-1, at 8-10.) Therefore, these line items are also recoverable under the unjust enrichment framework.

The Court concludes that Defendants were unjustly enriched by avoiding having to spend the same time and money as did PPG to create, research, and develop Opticor from scratch, including the machine and operational expenditures that PPG attests it made “exclusively” to create Opticor. Given that the Second Lakdawala declaration specifically attests that the contested expenditures were used only to develop Opticor and not to produce it, PPG has met the threshold of providing a reasonable basis from which the Court can include that the listed items in the damages award relate solely to the trade secrets that Defendants misappropriated. Therefore, the capital expenditures, overhead costs, and depreciation, are recoverable under the unjust enrichment framework in the total amount of \$4,299,886.

2. Uncontested Opticor Technology Center Costs – \$3,718,054.30

Defendants object only to specific, itemized costs related to capital expenditures, overhead, and depreciation, from the listed Opticor Technology Centers from 2006 through April 2015, *see supra*. Defendants do not contest a total of \$3,458,906 in remaining costs from 2006 through April 2015 associated with the NPT Ballistics, NPT Base Polymer Development, and NPT Cabin Windows cost centers. They also do not contest expenditures made between 2008 through April 2015 by the Huntsville Development for Opticor and Opticor for OEM Coatings cost centers in the amounts of \$182,834.30, and \$76,313.00, respectively. Upon examination of the evidence PPG produced supporting these uncontested costs, the Court concludes that PPG has explained the basis for its calculations to a reasonable certainty.

The uncontested expenses from each cost center are described with specificity sufficient to allow the Court to conclude that they relate solely to Opticor's research and development. The uncontested NPT Ballistics, NPT Base Polymer Development, and NPT Cabin Windows Cost Center expenses for this time period are divided into categories including salaries, employee benefits, professional services, shop labor, and other miscellaneous service-related charges. (ECF No. 165-1, at 8–10.) These expenditures straightforwardly constitute research and development costs. Like the contested expenditures from these cost centers for the 2006–2015, PPG attests that these uncontested expenditures are also “*exclusively* for the cost to create, develop, and commercialize” Opticor for support. (ECF No. 165-1, ¶ 4.) And although the Huntsville Development for Opticor and Opticor for OEM Coatings expenditures are not divided into detailed categories, the Lakdawala Declaration reports that they were derived from contemporaneous PPG accounting reports for each year that Opticor Technology was being developed by these cost centers and avers that they relate “*exclusively*” to Opticor's research and development. (ECF No. 165-1, at 3, 12.)

PPG has therefore met the threshold of providing a reasonable basis from which the Court can conclude that the listed items in the damages award relate solely to the trade secrets that Defendants misappropriated, and the Court finds that PPG has appropriately justified these costs as expenditures made on Opticor's research and development, rather than its production. The expenditures listed are therefore recoverable under the unjust enrichment framework in the amount of \$3,718,053.30.

**B. The Zwick and Max Machines – \$784,842**

In addition to the general capital expenditures and overhead categories, the parties also contest a specific expenditure of \$784,842 that PPG made on two machines: one “Zwick Material Testing Machine” that cost \$46,989, and one “Max Machine” that cost \$737,853. Unlike the other capital expenditures and overhead, which the Lakdawala Declaration attests were “exclusively” attributable to Opticor’s creation and development, the Lakdawala Declaration states that both of these machines were “*predominantly* used for the initial creation and development of the Opticor Technology rather than ongoing manufacturing and production of Opticor products.” (ECF No. 165, at 9; Lakdawala Decl. ¶ 7) (emphasis added). Of course, this language necessarily implies that PPG used the machines both for Opticor’s research and development, and also for its manufacture and production. The Court will therefore consider the parties’ arguments relating to expenditures on these machines separate from the general overhead and capital expenditures that PPG attests it “exclusively” used for Opticor’s research and development.

Under the Restatement of Restitution and Unjust Enrichment, “[t]he value of the [defendant’s] use may be measured, as the court finds appropriate, . . . by the costs that [the defendant] would have incurred to acquire or create equivalent materials by legitimate means.” *See* Restatement Third of Restitution and Unjust Enrichment § 42 cmt. f, illus. 5 (Am. Law Inst. 2011.) The Court concluded in its previous Opinion and reaffirms here that PPG’s research and development costs to create Opticor are an appropriate measure of Defendants’ unjust enrichment. So the question as applied to the Zwick and Max machines is whether the Defendant would have incurred the cost of the machines had it created an equivalent to Opticor by legitimate means – in essence, whether Defendants, because of their wrongful acts, were enriched by the cost of the two machines.

PPG explains that the Zwick machine is a “tensile testing machine” that PPG used to develop, evaluate, and refine the mechanical strength of Opticor materials by testing potential materials’ tensile strength and other measurements. (Lakdawala Decl. 2 ¶ 8.) PPG argues that although Defendants “might not necessarily save the cost of purchasing these machines when attempting to make Opticor themselves,” Defendants still unjustly enriched themselves by the value of time and money that they saved by “stealing the proprietary information that PPG created through the investment in these machines.” (ECF No. 165, at 10.)

PPG thus argues that it is entitled to the cost of the Machine’s purchase as redress for the time and money Defendants saved by not having to perform those tests on their own. Similarly, PPG argues that “the only reason TMG purchased the Max Machine” is because PPG had already dedicated time and money to develop the proprietary process that uses the Max Machine to produce Opticor products. PPG argues that Defendants unjustly enriched themselves in the amount of PPG’s investment in the Max Machine by saving “the tremendous amount of time and money they would otherwise have had to spend trying to design their own molds to configure a Max Machine to produce Opticor Products.” *Id.* In turn, Defendants argue that under the Court’s unjust enrichment rubric, Defendants would not have “saved money” on these expenditures, because “development of a competing product would still necessitate the purchase of these machines.” (ECF No. 166, at 6.)

Whether the cost of the machines is a cost PPG expended to develop the Opticor technology is a proxy for the question of what costs Defendants would have incurred to create Opticor by legitimate means. PPG concedes that even if Defendants had created a competing product by legitimate means, they would have still later bought the machines to produce that product. (ECF No. 167, at 6.) The Court therefore agrees with Defendants’ argument that, under the relevant

unjust enrichment rubric, Defendants did not “save money” on these expenditures by appropriating trade secrets. Instead, the appropriated trade secrets only allowed Defendants to unjustly avoid the costs of legitimately researching and developing a competing product, without impacting the costs necessary to produce a competing product. Because Defendants did not unjustly enrich themselves by avoiding the cost of producing Opticor, the Court will not award as damages the costs associated with production which the Defendant did not avoid.

This conclusion is supported by the fact that the Second Lakdawala Declaration states only that the machines were “predominantly used for” Opticor’s initial creation and development, rather than its ongoing production – a clear contrast with the same declaration’s averment that certain other capital expenditures were “*exclusively*” used for Opticor’s creation and development. (ECF No. 165-1 ¶ 7.) This language leads the Court to infer that PPG used the machines for both Opticor’s creation and development and for its subsequent production. And given that, as explained above, Defendants enriched themselves only by the cost of Opticor’s creation and development, this means that the cost of the machines is attributable both to one use that PPG may claim as damages and to one use that it may not.

The Court has now provided PPG with two opportunities to either clarify that the machines were used only for Opticor’s research and development or submit an explanation of the way in which some proportion of the machines’ costs were properly attributable to research and development. It has not done so. Thus, because the record evidence gives the Court no indication of the fraction of the machines’ cost attributable to research and development, the Court will exclude from the damages award the entire \$784,842 cost of the Zwick and Max Machines.



### C. Rounded and Estimated Costs

The Court's previous Opinion also required PPG to elaborate on the calculations behind its estimated damages figures. (ECF No. 157, 38-39). PPG now reports that it calculated those figures using one of two methods: either by (a) rounding figures taken directly from an accounting report that tracked PPG's historical research and development from 2010 –2017, or by (b) estimating figures based on a "reasonable and conservative" calculation of an average cost of a PPG engineer on a per hour basis. The Court agrees with PPG that, where appropriately supported by record evidence that allows the Court to determine damages with "reasonable certainty," these methods can provide "a reasonably fair basis for calculating" PPG's monetary damages. (ECF No. 165, at 12 (citing *Kaczkowski v. Bolubasz*, 491 Pa. 561, 567, 421 A.2d 1027, 1030 (1980)); see *Shoemaker*, 652 F. Supp. 2d at 605 ("[u]nder Pennsylvania law there is no requirement that a damage calculation meet a standard of mathematical certainty").

As discussed below, the Court finds that PPG has submitted calculations allowing the Court to determine damages with the requisite certainty for two of the expenditure groups that the parties contest: PPG has adequately supported its damages estimates associated with (1) 2012–2015 Opticor Sylmar Costs and (2) 2004–2005 NPT Base Polymer Center Costs. However, the Court finds that PPG has failed to provide calculations allowing the Court to make such a determination as to the remaining two disputed damages estimates: PPG has failed to adequately support the damages estimates it associates with (1) the 2006–2014 Huntsville Engineering Costs and (2) the 2006–2007 Huntsville Center Costs.

1. 2012–2015 Opticor Sylmar Costs—\$298,000

First, PPG has appropriately explained its “round number” damages figures from 2012–2014 for expenses from the Opticor Sylmar cost center, which are as follows: \$50,000 from 2012; \$40,000 from 2013, \$188,000 from 2014, and \$20,000 from 2015. (ECF No. 165-1 at 4-5 ¶ 11.)<sup>4</sup> PPG now clarifies that these numbers are not “estimates,” but are instead “rounded numbers derived from PPG’s Historical [Research and Development] Spend Report.” (ECF No. 165, at 13; 165-1 ¶ 11.) Defendants object to PPG’s reliance on that “Historical R&D Spend Report” as a basis for those “round” development cost numbers, arguing that Mr. Lakdawala’s updated declaration admits that the Historical R&D Spend Report tracks total transparencies-related research as a whole, but not specific development costs associated with Opticor. (ECF No. 166, at 11.) And Defendants specifically object to the basis for the \$20,000 calculation from 2015, pointing to the Lakdawala Declaration’s note that the estimated figure was based on Mr. Lakdawala’s “conservative estimate of the allocation of resources in 2015” without further explanation. *Id.* (citing ECF No. 165-1 ¶ 11.)

But in response, PPG clarified that the Historical R&D Spend Report in fact does track the research and development costs *exclusively* attributable to Opticor from 2012–2015, reiterating that the cost amounts listed for 2012–2014 are figures rounded to the nearest thousandth dollar but derived from that Historical R&D Spend Report.

In short, PPG has responded to Defendants’ objections by attesting that it derived its figures directly from its accounting records by reference to a Historical R&D Spend Report that tracked

---

<sup>4</sup> PPG reports that although its Spend Report indicates \$130,000 in Opticor development for 2015, PPG allocated only 15% of those costs as damages. *Id.*

the research and development costs exclusively attributable to Opticor from 2012 to 2015. By explaining that it derived the expense figures directly from contemporaneously kept accounting records that exclusively tracked Opticor's development, PPG has fulfilled its duty to establish damages to a reasonable certainty. The Court concludes that PPG has supported its "round numbers" calculations for the Opticor Sylmar Cost Center for those years and grants PPG's motion as to the disputed \$298,000 in damages.

2. 2004–2005 NPT Base Polymer Center Costs – \$500,000

PPG has also provided sufficient explanation for its "round number" damages figures from 2004 and 2005 attributable to the NPT Base Polymer Center, in sums of \$200,000 from 2004 and \$300,000 from 2005. PPG explains that, unlike the 'round number' damages figures for the Opticor Sylmar cost center, these numbers are in fact estimates. Although PPG attests that also derived these figures from its Historical R&D Spend Report, it acknowledges that these figures are estimates because it did not have accounting records maintaining costs exclusively associated with the NPT Base Polymer center for that year. Instead, PPG explains that the R&D Spend report outlined the "historical financial projections of PPG's transparencies business as a whole," and the \$200,000 and \$300,000 figures were "based on those projections and the estimated percentage of work that would have been necessary to develop Opticor at that time." (ECF No. 165-1 ¶ 12.) PPG explains that the 2004 and 2005 damages figures amounted to about 1% of PPG's transparencies-related business projections as a whole for each of those two years. This 1% allocation, it also explains, is based on Mr. Lakdawala's estimated percentage of work that would have been necessary to develop Opticor. *Id.*

Defendants object to the fact that PPG did not attach a copy of the actual Historical R&D Spend Report on which it based its estimates, and also argue that PPG has not sufficiently explained how “financial projection[s]” led them to estimate the listed \$200,000 and \$300,000 expenditures on developing Opticor’s precursor. The actual Historical R&D Spend Report may indeed have helped the Court assess the bases for PPG’s damages calculations. But Defendants cite no authority for the proposition that PPG was required to submit the actual materials on which it bases its estimations, and do not point to support for this purported requirement in the governing Third Circuit damages standard. Nor could they: the relevant standard remains whether PPG has provided enough information to establish damages to a “reasonable certainty.” *Spector*, 451 Fed. App’x at 134. And here, the Court concludes that PPG has met that standard. Mr. Lakdawala’s second Declaration summarizes the reasoned conclusions that he drew based on the Historical R&D Spend Report and his experience in the transparencies industry. (ECF No. 165-1.) The declaration therefore provides the required “reasonably fair basis” for estimating damages.

Defendants also argue that because Mr. Lakdawala did not start his employment with PPG until 2006, he cannot have the “personal firsthand knowledge” that he claims of the 2004–2005 damages figures in his declaration. (ECF No. 166, at 12.) PPG, in turn, asserts that Defendants are mistaken about the date that Mr. Lakdawala began his employment. PPG reports that Mr. Lakdawala served as the President of “Sierracin Sylmar Corporation” and managed its transparencies business before PPG acquired that business in 2006. (ECF No. 167, at 9.)

Although PPG frames Defendants’ statement that Mr. Lakdawala began his employment at PPG in 2006 as an error, PPG’s purported clarification still actually indicates that Mr. Lakdawala began his employment with PPG in 2006, when PPG acquired the company at which he worked. And the record does not make clear whether the 2004–2005 figures come from Opticor

development work at Sierracan Sylmar, or from a PPG transparency development operation predating the acquisition (in which case, Mr. Lakdawala still would not have personally overseen the relevant Opticor development at that time).

But the Court finds that the estimations that Mr. Lakdawala explains in his affidavit provide a sufficient basis for PPG's damages calculations. Mr. Lakdawala is well qualified to estimate Opticor's development costs from 2004-2005 by his 35 years of experience in transparencies, including his experience managing transparencies development during the relevant time—regardless of where he managed that development—and subsequent personal experience managing Opticor's creation and development for PPG. Accordingly, the Court will grant PPG Motion as to the \$500,000 in question from the NPT Base Polymer Center.

### 3. 2006–2014 Huntsville Engineering Costs – \$265,856

As the Court set forth in its prior Opinion, PPG did not initially provide sufficient evidence justifying the damages it attributed to engineering hours spent on Opticor's development. PPG claimed \$265,856 in damages attributable to engineering hours spent developing Opticor at the Huntsville cost center from 2006-2014. As the Court noted, the first Lakdawala Declaration stated that PPG did not track employee time by the project. It instead listed the names of several employees who worked on the Opticor development team, reported estimating the hours that they spent on Opticor research, then reported reaching the estimated of \$265,856 total by multiplying the resulting number of employee hours – 3323.2 – by the flat rate of \$80 per hour. (ECF No. 107-5, at 3, 6.) This left PPG's computation methods for both the number of hours and the hourly rate, “somewhat of a mystery” in the Court's estimation, especially because PPG applied its unexplained \$80 per hour estimate to all labor over a twelve-year period, seemingly implying that

PPG's employees' labor costs remained both uniform and stagnant over that time. (ECF No. 157, at 39.) The Court therefore noted that, if the \$80 per hour figure represented an average or adjusted amount, then PPG should "show its work" to a reasonable degree. (ECF No. 157, at 39 n.10.)

Although PPG now provides additional information explaining its calculations in the Second Lakdawala declarations, those explanations fail to address the Court's concerns. First, Mr. Lakdawala explains that he estimates that two engineers spent approximately 10% of their time per week developing Opticor in 2006, that the hours doubled in 2007 because that engineering team transitioned their work to a "qualification" posture, and that he based the rest of his estimates on recollections of engineering activities and "conservative estimates of engineering hours." (ECF No. 165-1 ¶¶ 13, 14.) Mr. Lakdawala again reports that these estimates led to his calculation of 2,900 total estimated engineering hours spent on Opticor from 2006–2011, which he combined with the 403.2 hours that were actually recorded from 2012–2014, resulting in the 3,303.2-hour figure that he submitted. *Id.* This appears to be a reasonable method for calculating engineering hours spent.

But PPG then justifies the estimated \$80 per hour labor cost by explaining that the "average engineer" who would have worked on Opticor in that time would have been a "senior Engineer" earning a \$160,000 per year salary and receiving employee benefits of about \$44,800 per year. (ECF No. 165, at 15; 165-1 ¶ 15.) PPG asserts that the actual average hourly rate for a Senior Engineer working on Opticor in that time would have been about \$98.86 and argues that \$80 per hour therefore represents a "conservative estimate" of actual labor costs. *Id.*

The Court required that PPG "show its work" in calculating these labor costs "to a reasonable degree." (ECF No. 157, at 39 n.10.) This "reasonable degree" does not necessarily

require that PPG submit affidavits from the actual engineers who worked on the project, as Defendants argue. (ECF No. 166.) But it does require that PPG provide sufficient explanation to address the Court's concerns that PPG appears to have applied what an artificially uniform and stagnant flat hourly rate to all labor over a 12-year term. PPG purports to address this concern by providing a higher per hour estimate of \$98,46 per hour, from which it asserts that it "conservatively estimated" the \$80 per hour flat rate. But PPG's "calculations" show that it derives that higher estimate from what also appear to be flat rates of "at least \$160,000" in engineer salaries and "approximately \$44,800" in benefits, which it apparently still applies to the entire 12-year period in question without fluctuation.

The Court therefore agrees with Defendants<sup>5</sup> that, despite the Court's prior note that the stagnant and uniform employee labor costs were "particularly troublesome," PPG continues to assert stagnant and uniform employee labor costs over a 12-year period. And PPG continues to do so without providing evidentiary support for those costs sufficient to alleviate the Court's doubts: neither Mr. Lakdawala's second declaration nor PPG's second round of briefing on this question have provided any documentation or explanation supporting the assertion that the "average engineer" working on Opticor over the course of a 12-year period would have been a Senior Engineer earning \$160,000 per year. (ECF No. 165, at 15.)

Thus, despite having had two chances to do so, PPG still has not "shown its work" to the "reasonable degree" necessary to justify its claimed labor costs. The Court will therefore exclude

---

<sup>5</sup> Defendants' brief on this damages question appears to have estimated that PPG claimed \$232,000 in engineering costs as a result of these calculations; Defendants therefore contest only that amount (ECF No. 166, at 18). PPG's brief and the second Lakdawala Declaration show that PPG in fact claims \$265,856 in engineering costs. (ECF No. 165, at 4, 14.) Regardless, the Court finds that PPG has failed to provide adequate support to establish to a reasonable certainty the entirety of the \$265,856 in engineering costs and will exclude that amount from the award.

from the total damages amount the \$265,856 that PPG attributes to labor costs without sufficient support.

4. 2006–2007 Huntsville Center Costs - \$30,000

Finally, PPG also seeks damages of \$10,000 and \$20,000 for estimated research and development costs associated with the Huntsville Center in 2006 and 2007, respectively. PPG admits that it “does not have accounting records” for the Huntsville Center for those periods, but bases its estimate on Mr. Lakdawala’s “best recollection and informed estimation” of what the Opticor center would have had to spend to research and develop the technology at the same time. (ECF No. 165-1 ¶ 16.) In response to Defendants’ objection that PPG’s basing the estimate purely on “Mr. Lakdawala’s say-so” is insufficient, PPG simply proposes that the Court should sustain the damages calculation because Defendants do not articulate a specific reason that the Court should reject the estimate.

The Court disagrees. The standard for establishing damages is not unduly onerous, nor is PPG’s task arduous, but Defendants are correct that PPG’s explanation on this point fails to establish damages to a reasonable certainty. As to the total \$30,000 from the Huntsville Cost Center, PPG has provided no supporting evidence and pointed to no basis at all for its calculation. Because PPG has not provided a “reasonably fair basis” for its damages calculation, the Court will not sustain the damages award as to the contested \$30,000 attributed to the Huntsville Center for 2006–2007.



### III. Conclusion

PPG has alleged that it sustained total damages of \$9,866,637.30. As described above, the Court finds that PPG has failed to establish to a reasonable certainty \$1,080,698 of that total sum: (1) capital expenditures on the Max Machine and Zwick Material Testing Machine for a combined total of \$783,853; (2) \$265,856 in asserted labor costs; and (3) \$30,000 in expenses that it attributed to the Huntsville Center from 2006–2007.

However, the Court concludes that PPG has provided sufficient evidence establishing the balance to a reasonable certainty, in the following amounts: (1) \$7,758,792 attributed to the NPT Ballistics, NPT Base Polymer, and NPT Cabin Windows Centers from 2006 to 2015; (2) \$182,824.3 in costs from the Huntsville Engineering Center and \$76,313 from the Opticor for OEM Coatings center from 2006 to 2014; (3) \$288,000 in costs attributable to the Opticor Sylmar center from 2012 to 2015; and (4) \$500,000 in costs from the NPT Base Polymer center from 2004 to 2005.

For the reasons discussed above, the Court concludes that PPG has provided sufficient evidence supporting \$8,805,929 of its asserted damages. However, the Court also concludes that PPG has failed to provide sufficient evidence supporting \$1,080,698 of its asserted damages. PPG's Motion for Default Judgment is therefore **GRANTED** in part and **DENIED** in part on this issue of damages calculations. The Court denies PPG's motion for monetary damages in the amount of the \$1,080,698, and grants PPG's motion for monetary damages in the amount of \$8,805,929.

Finally, the Pennsylvania trade secrets law permits the award of exemplary damages and attorney fees where the misappropriation is willful and malicious. 12 Pa. C.S. §§ 5304, 5305. The

Court concluded in its previous Opinion that an award of exemplary damages was appropriate under 12 Pa. Cons. Stat. § 5403(b) in the maximum amount allowed under Pennsylvania law, at twice the monetary damages award. (ECF No. 157, at 40–44.) The Court accordingly awards as exemplary damages \$17,611,858 in addition to the \$8,805,929 monetary damage award. The Court therefore awards to PPG a total damages amount of \$26,417,787.

An appropriate Order will issue.

s/Mark R. Hornak  
Mark R. Hornak  
Chief United States District Judge

Dated: June 8, 2021

cc: All counsel of record via ECF